

ABSTRACT

Security processing circuits are discussed which may be used alone or as part of a network interface device of a host system using a single DES engine to accomplish 3DES processing. The security processing circuit is adapted for selectively encrypting outgoing data and decrypting incoming data, where the network interface device may be fabricated as a single integrated circuit chip. Methods are also provided for performing 3DES encryption and decryption services between the host system and a network, in which security information is obtained from the host system, which is used together with a set of secret keys for 3DES processing data utilizing a single DES engine and an intermediate result fed back to the single DES engine of the 3DES IPsec circuit.